



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/477.608 01/04/00 HILL

W IP-23

WOLFGANG HILL  
ORTENBERGSTR 3  
76135 KARLSRUHE  
FED REP GERMANY

MMC1/0731

AIR MAIL

EXAMINER

ADDISON, K

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

07/31/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

## Office Action Summary

Application No.

09/477,608

Applicant(s)

HILL, WOLFGANG

Examiner

Karen B Addison

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Allowable Subject Matter***

1. Claim 7 is allowed.

***Claim Rejections - 35 USC § 103***

2. Claim 1-2 and 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Hill (5,818,138) in view of Rosenberry (4,392,072).

Hill discloses in fig (1-5) and Electric machine with at least one magnetic circuit and at least two structural groups that are moveable against each other (13,15) and separated by an air gap and said two structural groups containing at least one soft magnetic body each, partial areas of the surface lie adjacent to the air gap having inhomogeneous properties. However, Hill does not disclose a soft magnetic body consisting of a material with higher magnetizability and / or higher saturation flux density (cobalt alloy) and a soft magnetic body possessing in total a larger cross section in direction of the flux than the sum of said teeth that are disposed toward said air gap.

*21-22*  
*(fig 9 - line 2-20)*  
*(2) (cobalt alloy)*  
*10-25*

Rosenberry teaches in fig. 2. An electric machine containing a soft magnetic body (2)(cobalt alloy) possessing in total a larger cross section in the direction of the flux than the sum of the teeth that are disposed towards said air gap for the purpose of avoiding damage to the power increasing effect. Rosenberry also discloses in (col.4 line 9-12) that suitable material for the stator is disclosed in U.S. Patent (4036638). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention

was made to modify the electric machine of Hill with the soft magnetic body of Rosenberry containing cobalt alloy to maximize the power density of the stator.

3. Claims 4-6 is rejected under 35 U.S.C. 103(a) as being unpatentable over hill in view of Rosenberry as applied to claim 1-3 above, and further in view of Flanning (EP 606974A1) and Intermadox(DE2653387A1).

As seen in paragraph number 2 above, Hill discloses a electric machine and Rosenberry disclose a soft magnetic body comprising cobalt alloy and a larger cross section in the direction of the flux. Neither Hill nor Rosenberry discloses a electric machine wherein at least one said soft magnetic body consist of electric sheet of variable sheet thickness and one spooled pole segment and two non-spooled half pole segments.

Flanning discloses in fig.6 a Laminated stator comprising soft magnetic body stacked in tangential direction and the thickness of the sheet increases as the radius increases and the magnetic body consists of electric sheet of variable for the purpose of providing a substantially continuous path circumferentially around the inner core.

Intermadox teaches in fig.3; a stator having at least one spooled pole segment and two non- spooled and said half pole segments abutting at least one pole segment in the yoke area to each is assign winding (16) in order to generate a phase offset between adjacent poles. Therefore it would have been obvious to one having ordinary skilled in the art at the time the invention was made to modify the electric machine of body of Hill

with the soft magnetic body of Rosenberg and the teaching of the variable sheet thickness of flanning with teaching of nonspool and spooled poles of intermadox to obtain high magnetizability.

***Conclusion***

Applicant's arguments with respect to claim 1-6 have been considered but are moot in view of the ground(s) of rejection.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B Addison whose telephone number is 703-306-5855. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1317. The fax phone numbers

Application/Control Number: 09/477,608

Page 5

Art Unit: 2834

for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

KBA  
July 29, 2001

  
NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800